

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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In the Matter of)
)
Revisions of the Commission's Rules)
To Ensure Compatibility with)
Enhanced 911 Emergency Calling Systems)
_____)

CC Docket No. 94-102
DA 99-1049

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

SPRINT PCS COMMENTS

Sprint Spectrum L.P., d/b/a Sprint PCS ("Sprint PCS") below responds to the Commission's request for additional comment regarding the wireless E911 Phase II automatic location identification ("ALI") requirements.¹

There is growing evidence that a handset-based solution based on global position satellite ("GPS") technology may provide a superior solution to the ALI requirement when compared to network-based solutions.² At least for CDMA carriers like Sprint PCS, a GPS-based handset solution promises to *increase* the number of E911 callers that can be located and to *improve* the accuracy of location identification — while *reducing substantially* carrier ALI deployment costs. The Commission should therefore be commended for considering amending its rules so industry can pursue this very promising development. Just as consumers should have choices in service providers using different technologies, so too carriers

¹ See *Public Notice*, "Wireless Telecommunications Bureau Requests Targeted Comment on Wireless E911 Phase II Automatic Location Identification Requirements," CC Docket No. 94-102, DA 99-1049 (June 1, 1999) ("ALI Notice").

² See, e.g., *Integrated Data Communications Ex Parte*, CC Docket No. 94-102 (June 3, 1999) (summarizing results of recent field tests of one handset solution in King County, Washington).

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should have choices in technologies that best meet the needs of their customers in the most cost-effective manner. As the Commission noted two years ago:

Since the *E911 First Report and Order* was adopted . . . we have received several inquiries with respect to whether other technologies, such as handset-based technologies using the GPS satellite system, could comply with our rules. To clarify our policies, we wish to reaffirm that our rules and their application are intended to be technologically and competitively neutral. We do not intend that the implementation deadline, the accuracy standard, or other rules should hamper the development and deployment of the best and most efficient ALI technologies and systems. . . . We . . . would consider proposals to phase in implementation, especially to the extent a proposal also helps achieve the further improvements in ALI capabilities³

For this reason the Commission should disregard as self-serving the comments of certain network solution providers urging it to hold by regulatory fiat that carriers should be precluded from considering handset solution alternatives — even though they may provide greater accuracy at lower cost.⁴

I. Sprint PCS Will Provide GPS-Capable Handsets as Soon as They Become Available in the Market

The Commission has requested comment on two proposals, both of which urge it to establish a date after which carriers using a handset solution must provide only GPS-capable handsets to their customers.⁵ Specifically, SnapTrack, which is developing one GPS based handset solution, recommends that all new handsets be GPS-capable after December 31, 2001; the Association of Public-Safety Communications Officials (“APCO”) proposes

³ *E911 Reconsideration Order*, 12 FCC Rcd 22665, 22725 ¶ 124 (1997).

⁴ See, e.g., True Position Ex Parte, CC Docket No. 94-102 (May 25, 1999). For the same reason, the Commission should reject the argument at the other extreme: carriers should be precluded from considering network-based solutions. See Wireless Consumers Alliance Petition to Modify Rule 20.18, CC Docket No. 94-102 (June 2, 1999).

⁵ See *ALI Notice* at 3.

that 80% of all new handsets be ALI-compatible by December 31, 2001 and 100% compatible by December 31, 2002.⁶

Sprint PCS is seriously considering a GPS handset approach to meet the Phase II ALI requirement because it appears to provide, both in the near and longer terms, a superior and more cost effective solution when compared with network-based alternatives. If Sprint PCS does pursue such a course, it would offer GPS-capable handsets as soon as they become available in the market.

With this commitment, Sprint PCS is not convinced that a regulatory mandate is necessary. Nonetheless, if the Commission decides that it must require that carriers using a GPS solution provide only GPS-capable handsets, it is important that the Commission establish a realistic date.⁷

It is possible, if not likely, that vendors could begin manufacturing GPS-capable handsets by January 2001. Each vendor, however, produces numerous models of handsets, and Sprint PCS does not know whether vendors will be able to redesign all their handset models by the end of 2001 (SnapTrack) or by the end of 2002 (APCO). Consumers today enjoy a rich array of choice in handsets, and their interests would not be served if their handset choices became restricted because vendors are unable to modify all of their handset models before a government imposed deadline.

Sprint PCS is firmly committed to providing its customers with an E911 ALI capability, and if it implements a handset solution, Sprint PCS further commits that it will of-

⁶ *Ibid.*

⁷ In establishing any date, it is further important for the Commission to remember that carriers do not control the handset manufacturing process.

fer its customers the option of purchasing GPS handsets as soon as they become available in the market. Because Phase II ALI will not become a reality until 911 call centers upgrade their equipment,⁸ Sprint PCS submits that it would be premature at this time for the Commission to establish a firm date by which handsets must be GPS-capable.

Finally, Sprint PCS notes that the Commission should be careful to avoid the unintended consequences of mandating technology choices, including GPS. This area of research is currently experiencing intense investigation and rapid change. As new technologies develop, carriers should be free to implement the most efficient and cost effective products. Customers should not be frozen at one level of service as new technologies develop.

II. The Matter of Legacy Handsets and Roaming Customers

No ALI solution is perfect. While handset solutions promise many advantages (improved accuracy, lower cost), they have the disadvantage that they will work only with a suitably equipped handset. The Commission has asked what should be done for consumers without GPS-capable handsets — whether they are a customer of the carrier or a person roaming from another system.⁹ Two proposals have been submitted, and Sprint PCS below discusses the merits of each proposal.

Several preliminary observations are in order. First, it bears emphasis that there will exist a baseline safety net for customers without GPS-handsets even if the Commission takes no additional action: 911 call centers will continue to receive Phase I-level location

⁸ To take advantage of Phase II ALI data, PSAPs not only must purchase and install mapping display CPE/equipment, but also must modify county/city maps to translate latitude and longitude into accurate street addresses. Mapping translation costs can be substantial, depending on the degree of accuracy that a PSAP desires. See Report to the Legislature: Enhanced 911 Funding Study for Wireless Telecommunications in Washington State, at 4-15 (Dec. 31, 1998)(projecting an expense of \$18.6 million to convert all real property parcels in Washington state).

information (cell site/cell sector) for all 911 callers, including those whose handsets do not include a GPS capability. While few 911 call centers have implemented Phase I capabilities to date, the fact is that call centers choosing to skip Phase I in favor of implementing Phase II directly will necessarily receive Phase I cell site location data once they implement Phase II.

Second, Sprint PCS questions whether roaming customers will actually present a public policy concern requiring government intervention. While it should be anticipated that carriers will pursue different methods of achieving ALI compliance, it is more likely than not that carriers using the same air interface will follow a similar approach. For example, AMPS carriers appear to be focusing primarily on a network-based solution. To Sprint PCS' knowledge, most CDMA carriers are investigating a GPS handset solution. If most CDMA carriers deploy a GPS solution, most CDMA customers will be purchasing GPS-capable handsets, which will enable the provision of Phase II ALI when they are roaming on other CDMA networks. And if CDMA customers roam on AMPS networks, they will receive the benefits of ALI whether or not the AMPS carrier implements a network or handset solution.

The issue, then, is limited primarily to customers choosing not to purchase a GPS-capable handset when such handsets first become available. This matter of legacy handsets is a transitory issue only. Record evidence documents that the average life of a handset is as low as three years.¹⁰ Thus, if GPS-capable handsets are introduced in the market by January 2001, as appears possible, most consumers will make new purchase decisions in the ordinary course before January 2004. Given that the CMRS market will soon undergo revolutionary change with the introduction of CMRS data networks and the availability of Internet/e-

⁹ See *ALI Notice* at 5-6.

¹⁰ See *SnapTrack Ex Parte*, CC Docket No. 94-102 (Oct. 30, 1998).

mail access, there is every reason to believe that most consumers will make new handset purchase decisions well before 2004. Sprint PCS would hope that by this time most 911 call centers will have made the necessary modifications to use Phase II ALI data.

With this backdrop, Sprint PCS discusses the two approaches for addressing customers and roamers with non-GPS handsets.

A. The APCO Mandatory Penetration Level Proposal Is Not Workable

APCO recommends that the Commission establish benchmarks by which carriers would guarantee that a certain percentage (and eventually all) of their customers would own ALI-capable handsets.¹¹ APCO further proposes that a carrier “fail[ing] to meet any of the benchmarks must face the possibility of revocation of its waiver, Commission fines, or in extreme cases, license revocation.”¹² Apparently, APCO would impose this obligation and these penalties on carriers regardless of the number of 911 call centers that are capable of using ALI data and regardless of the number of 911 calls providing ALI.¹³ Even if a carrier could easily identify those customers without ALI-capable handsets, APCO does not explain how a carrier is to control the behavior of its customers.¹⁴ Nor does APCO does not explain the legal basis for holding carriers responsible (and penalizing them) for the actions or inactions of their customers.

¹¹ See *ALI Notice* at 3.

¹² APCO Further Comments, CC Docket No 94-102, at 3 (May 25, 1999).

¹³ The Commission has asked carriers to identify the costs they would incur if it required them to retrofit or replace handsets to make them ALI-compatible “at the carrier’s expense or, at a minimum, at a very substantial discount.” *ALI Notice* at 6. There is no reason to submit such costs because the Takings Clause of the U.S. Constitution precludes the government from requiring carriers to provide unregulated CPE without just compensation.

In addressing the issue of legacy handsets, the Commission might look to another important development in public safety: the introduction of seat belts, and later, airbags. While the government required that certain (but initially, not all) new vehicles include belts and airbags, it did not require consumers to retrofit their existing vehicles. What was important was giving consumers the opportunity to purchase vehicles with belts and airbags. The same approach should be followed with regard to GPS handsets. Rather than attempt to control consumers purchase decisions, this Commission should instead take whatever steps it can to facilitate the early introduction of GPS-capable handsets.

B. The Sprint PCS Hybrid Proposal Offers a Promising Way to Provide an Additional Safety Net During the Brief Time That Non-GPS Handsets Remain in the Market

In February, Sprint PCS submitted for public debate a possible arrangement that would provide an additional safety net for customers and roamers without GPS-capable handsets: Sprint PCS would deploy a network software solution that may provide location information with an accuracy within 285 meters — substantially better than the location accuracy available with Phase I.¹⁵ Sprint PCS acknowledged that vendors had not yet developed this alternative and that, as a result, neither the accuracy projections could be verified nor the implementation costs determined.¹⁶ Nevertheless, at least in Sprint PCS' judgment, this network software "back-up" was sufficiently promising that it warranted serious consideration.

¹⁴ Although Microsoft claims that its Windows 98 is superior to Windows 95, there remain many people who have decided not to upgrade to Windows 98 notwithstanding special promotions that Microsoft offers from time to time.

¹⁵ See Sprint PCS Waiver Request, CC Docket No. 94-102 (Feb. 4, 1999); Sprint PCS Reply Comments, CC Docket No. 94-102 (Feb. 22, 1999). This arrangement would utilize existing messages in the CDMA IS-95 protocol. Thus, while (to Sprint PCS' knowledge) only one vendor had been examining this approach, in theory all CDMA vendors could implement this solution.

¹⁶ See *ibid.*

However, Sprint PCS cautioned that to “implement such an approach, [it] would need assurances that phased implementation of phase II technology is acceptable to the FCC.”¹⁷

Since it submitted this proposal for public debate, Sprint PCS has learned that the vendor that had been exploring this option has stopped working on it— under the belief there was no demand for this potentially cost-effective solution because location accuracy would exceed the 125 meter requirement. Sprint PCS continues to believe that this back-up network solution merits further exploration. However, it is now clear that this exploration will not occur unless the Commission ratifies that such a solution would satisfy a carrier’s E911 obligations. Sprint PCS therefore asks that the Commission confirm that this back-up network solution could satisfy a carrier’s E911 obligation for customers and roamers without GPS-capable handsets so vendors continue their development of this arrangement.

III. Conclusion

At the time the Commission established its 125-meter ALI obligation, there was no product in the market that was capable of meeting the requirement. The Commission nonetheless established its October 2001 deployment date because it believed that “setting a firm date will encourage entrepreneurial efforts and investments to serve this market.”¹⁸ The Commission’s prediction has been proven accurate: wireless carriers have an increasing array of choices to meet the ALI requirement, and the newest of the technologies promise to provide location accuracy more precise than the 125-meter requirement. Now is not the time for the Commission to restrict the choices available to carriers.

¹⁷ Sprint PCS Waiver Request at 5.


¹⁸ *E911 Reconsideration Order*, 12 FCC Rcd 22665, 22723 ¶ 120 (1997).

For all the foregoing reasons, Sprint PCS respectfully requests that the Commission modify its rules (or grant appropriate waivers) so carriers can pursue a handset solution to the ALI requirement if they determine that such technology provides a superior solution. The Commission should also indicate clearly whether it wants industry to explore a network solution back-up for customers and roamers using non-GPS-capable handsets.

Respectfully submitted

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